

# CARBON REMOVAL

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## WHAT IS CARBON REMOVAL?

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## WHY IS CARBON REMOVAL IMPORTANT?

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Under the 2015 Paris Agreement, the international community committed itself to “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C.” In the studies reviewed by the Intergovernmental Panel on Climate Change for their Assessment Report and their Special Report on Global Warming of 1.5°C, most of the pathways to meeting the Paris Agreement’s targets require the world to supplement rapid emissions reductions with at least some form of large-scale carbon removal.

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## CARBON REMOVAL’S ROLE IN CLIMATE POLICY

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While carbon removal could play an important role in limiting climate change, it is not a suitable replacement for cutting greenhouse gas emissions or taking steps to adapt to climate change. Known and proposed methods of carbon removal are too slow-acting, limited in scope, and/or expensive to offset anything like society’s current emissions. When paired with ambitious emissions reductions, carbon removal could make it possible to reach net-zero emissions so that humans are removing one ton of CO<sub>2</sub> from the atmosphere for every ton they emit. Eventually, carbon removal could reach negative emissions, meaning that humanity would remove more CO<sub>2</sub> from the atmosphere each year than it emits, gradually lowering atmospheric CO<sub>2</sub> concentrations.

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## PROPOSED METHODS OF CARBON REMOVAL

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Some proposed methods of carbon removal include: restoring forests; growing or collecting biomass to produce bioenergy and then capturing the resulting carbon emissions; restoring degraded coastal wetlands; building machines to capture CO<sub>2</sub> directly from ambient air and store it underground or in long-lived products; spreading powdered rock that would absorb CO<sub>2</sub> from the air; various methods of storing carbon in the oceans; and managing agricultural lands to increase their soil carbon content.

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## CO-BENEFITS AND CONCERNS

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Method-specific co-benefits and concerns:

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## GOVERNANCE CONSIDERATIONS

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## FURTHER READING

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